Appendix C
Correlated PM_{10} Concentrations and Winds

The following graphs illustrate the direct correlation between wind speeds[1] and PM_{10} concentrations at select monitoring sites within the Salton Sea Air Basin on September 12 and September 13, 2016. Note a variety of instruments measure wind speed at different times during any given hour. Therefore, the following graphs reflect the hour of the wind measurement.

IMPERIAL COUNTY SITES
(Figures C-1 to C-5)

FIGURE C-1
BRAWLEY
PM_{10} CONCENTRATION & WIND SPEED CORRELATION

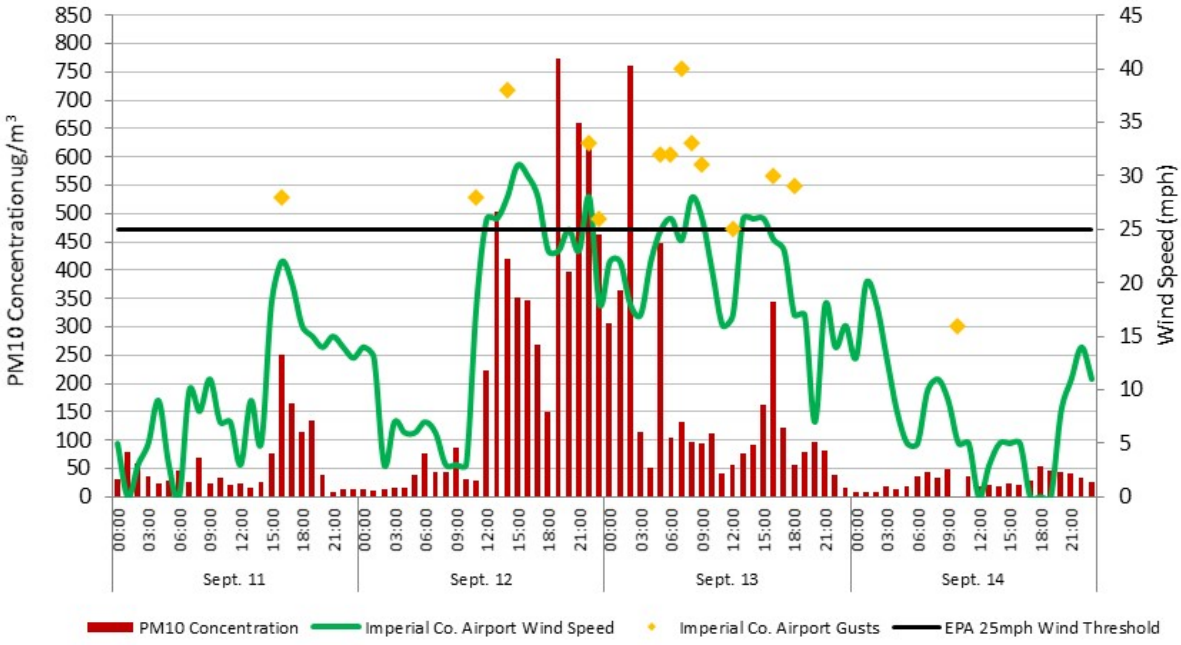


Fig. C-1: Fluctuations in hourly concentrations over 72 hours show a positive correlation with wind speeds, and particularly gusts, at Imperial County Airport (KIPL). Brawley station does not measure wind. Air quality data from the EPA's AQS data bank. Wind data from the NCEI's QCLCD system.

[1] National Weather Service; NOAA's Glossary – Wind Speed: The rate at which air is moving horizontally past a given point. It may be a 2-minute average speed (reported as wind speed) or an instantaneous speed (reported as a peak wind speed, wind gust, or squall); https://w1.weather.gov/glossary/index.php?letter=w

FIGURE C-2
CALEXICO
PM_{10} CONCENTRATION & WIND SPEED CORRELATION

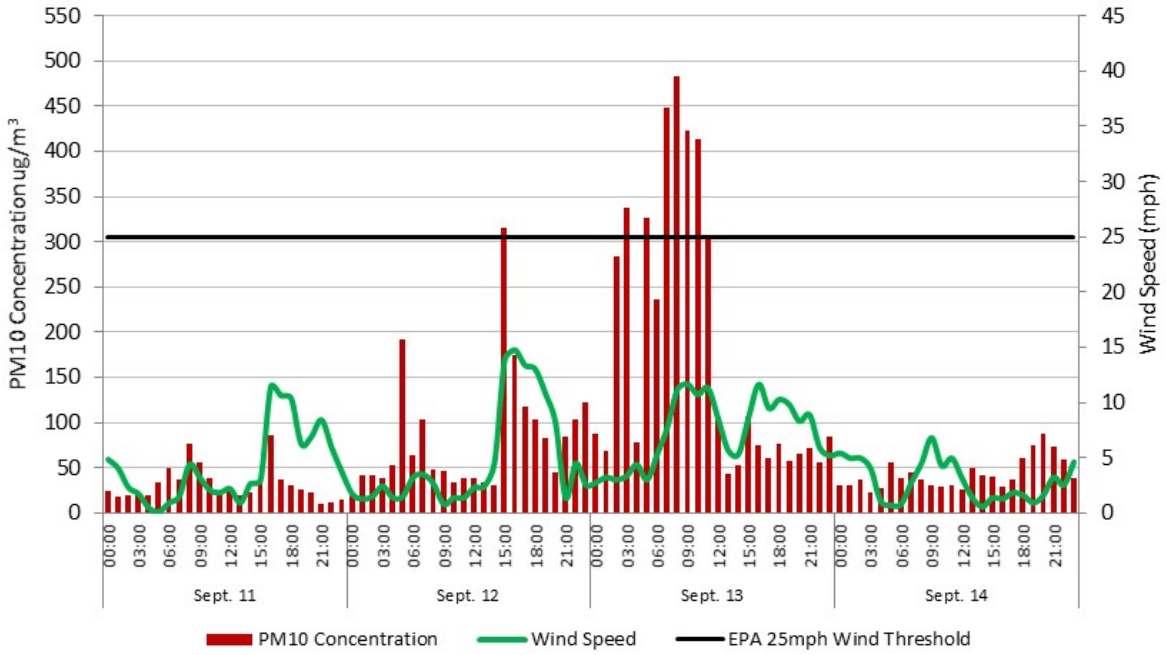


Fig. C-2: Winds at Calexico did not reach the 25 mph threshold, but this allowed dust transported into the area to be deposited on the monitor. Air quality and wind data from the EPA's AQS data bank.

FIGURE C-3
EL CENTRO (9TH St)
PM_{10} CONCENTRATION & WIND SPEED CORRELATION

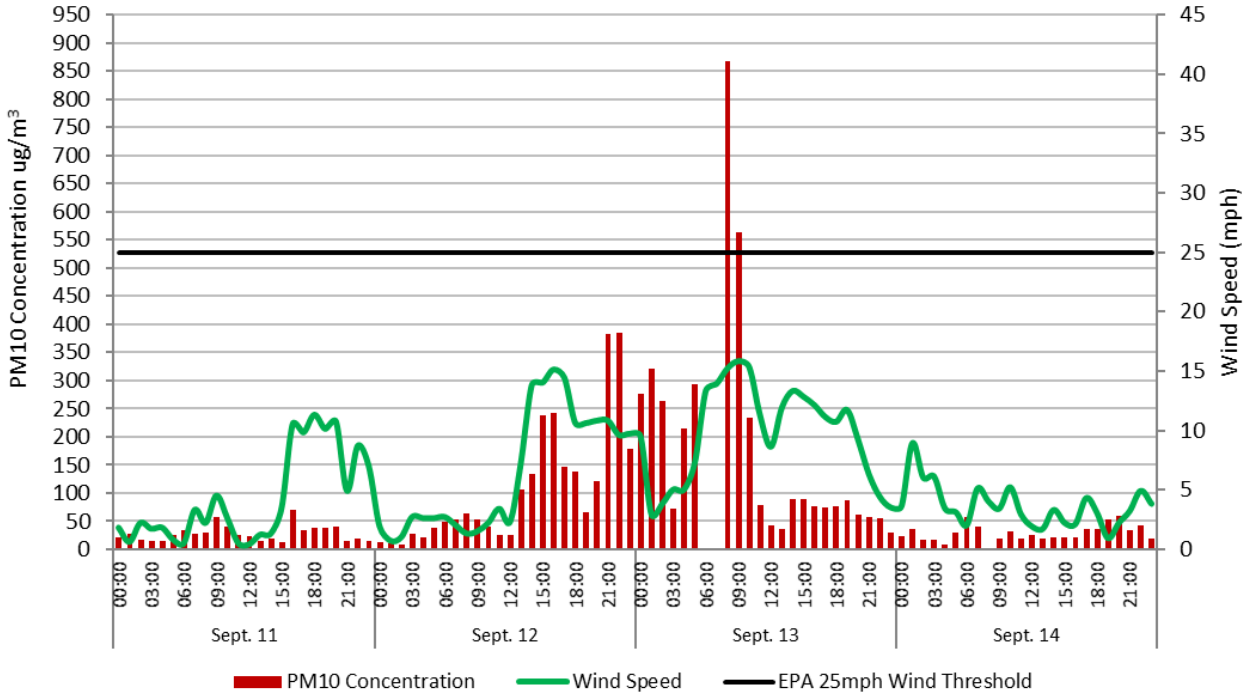


Fig. C-3: Winds at El Centro did not reach the 25 mph threshold. However, higher winds upstream transported dust downstream, where lower wind speeds at the station allowed dust to be deposited. Air quality and wind data from the EPA's AQS data bank.

FIGURE C-4
NILAND (ENGLISH RD)
PM_{10} CONCENTRATION & WIND SPEED CORRELATION

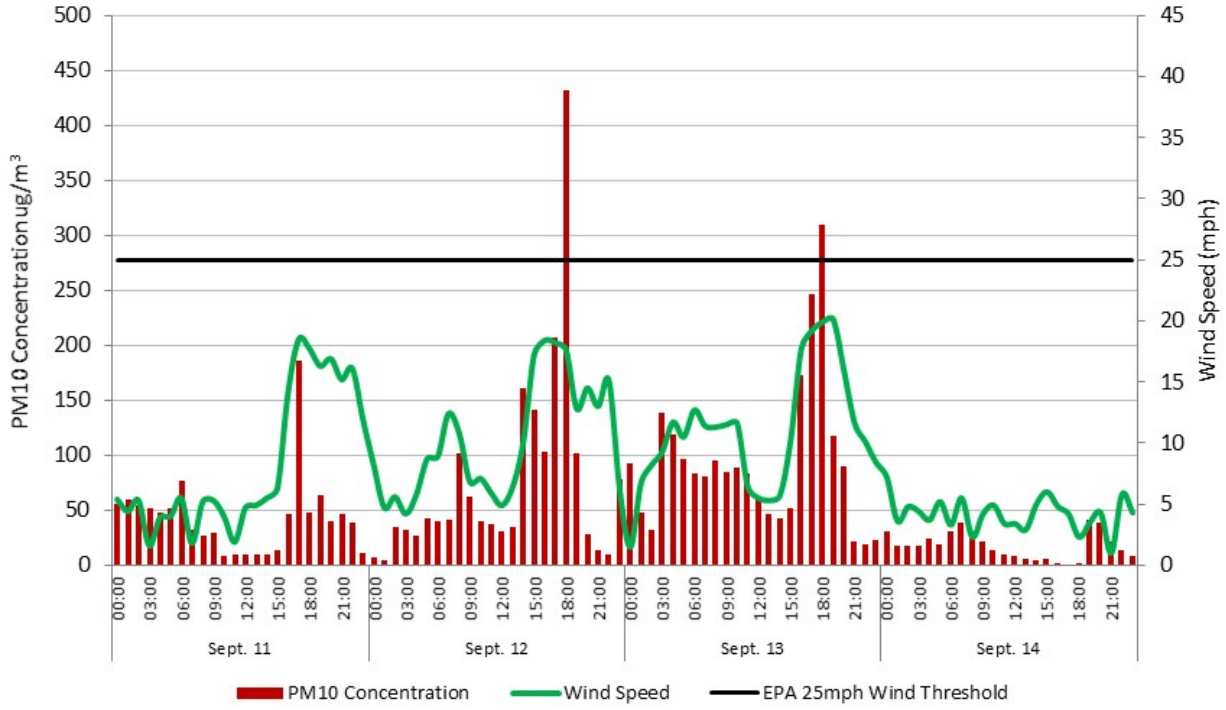


Fig. C-4: Winds at Niland (English Rd) did not reach the 25 mph threshold. However, as discussed earlier, dust being transported into the valley was deposited over the Salton Sea before reaching the monitor. Air quality and wind data from the EPA's AQS data bank.

FIGURE C-5
WESTMORLAND
PM_{10} CONCENTRATION & WIND SPEED CORRELATION

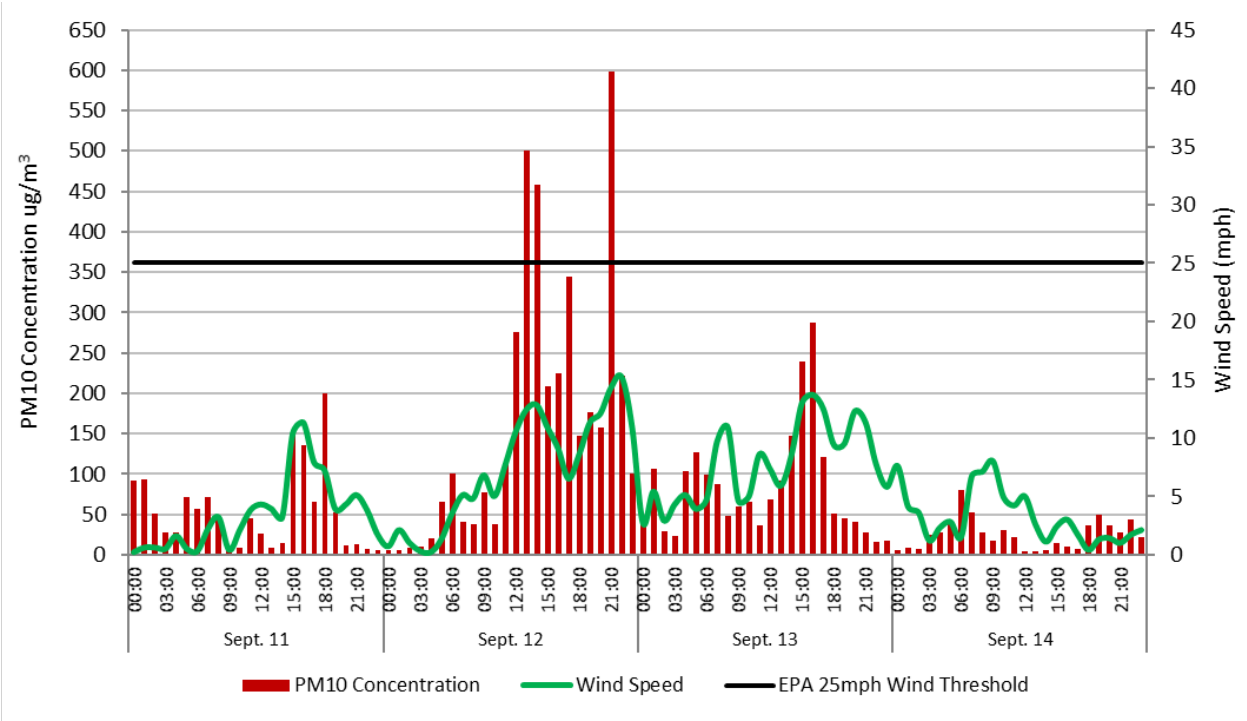


Fig. C-5: Although winds did not surpass 25 mph at Westmorland station, higher winds upstream transported dust downstream, where lower wind speeds at the station allowed dust to be deposited. Air quality and wind data from the EPA's AQS data bank.

EASTERN RIVERSIDE COUNTY SITES

FIGURE C-6
TORRES-MARTINEZ DESERT CAHUILLA INDIANS RESERVATION
PM_{10} CONCENTRATION & WIND SPEED CORRELATION

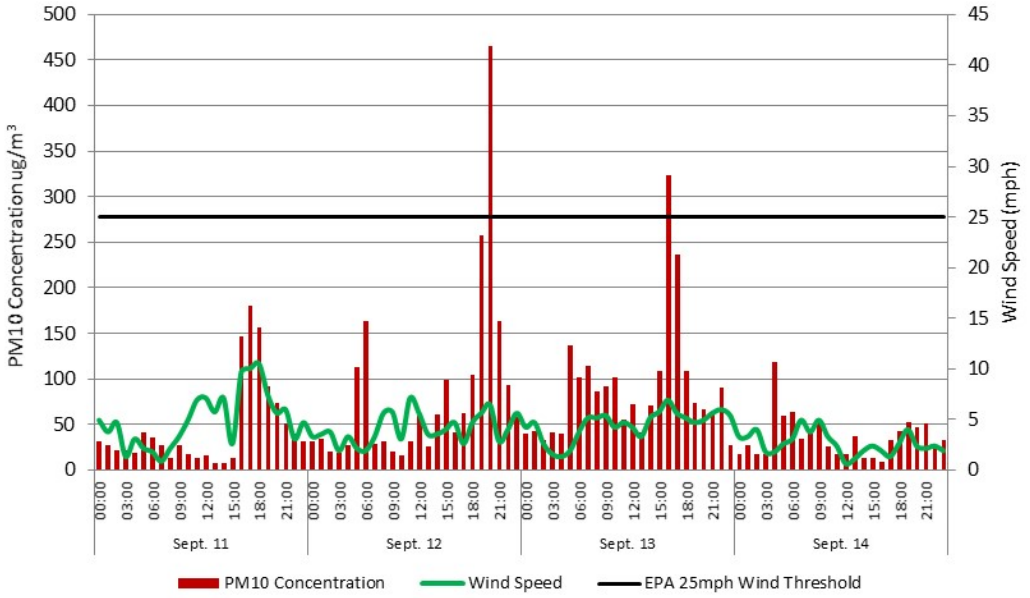


Fig. C-6: Concentrations rose in response to higher winds on September 12-13, 2016. Air quality and wind data from the EPA's AQS data bank.

FIGURE C-7
INDIO (JACKSON ST)
PM_{10} CONCENTRATION & WIND SPEED CORRELATION

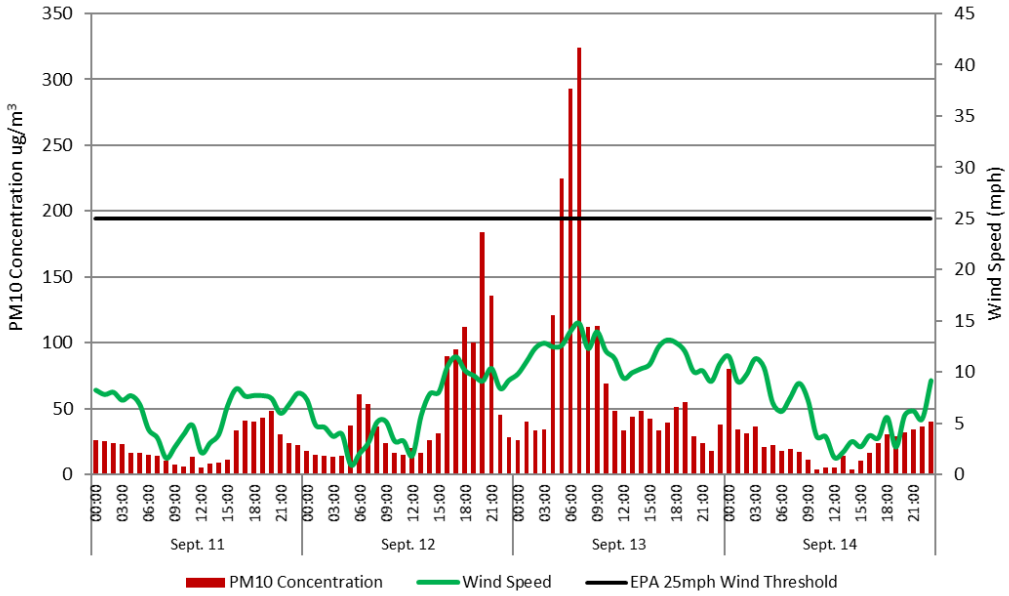
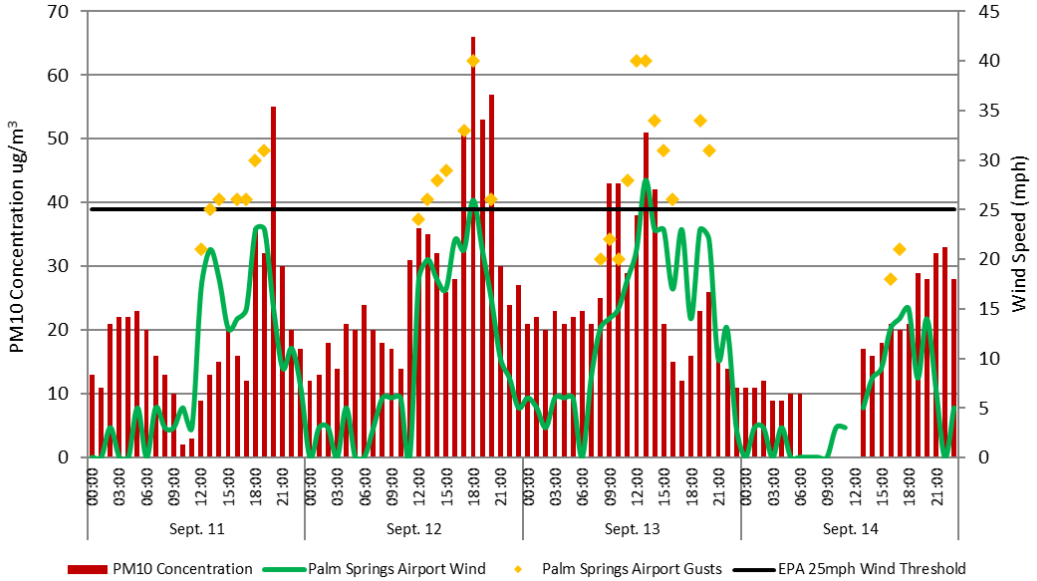


Fig. C-7: Concentrations rose in response to higher winds on September 12-13, 2016. Air quality and wind data from the EPA's AQS data bank.

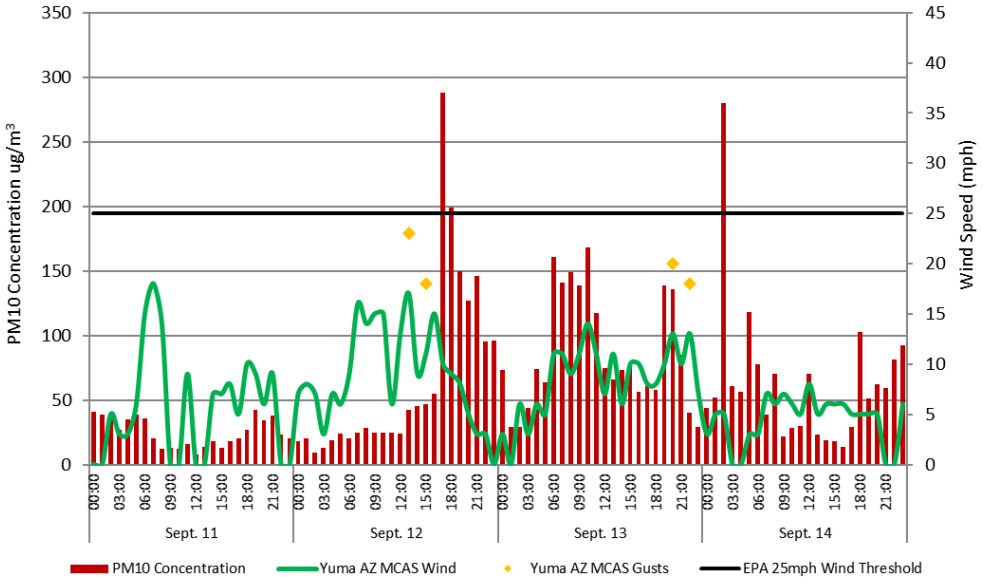
FIGURE C-8
PALM SPRINGS FIRE STATION
PM_{10} CONCENTRATION & WIND SPEED CORRELATION



Figs C-8: Concentrations rose in response to higher winds on September 12-13, 2016. Air quality and wind data from the EPA's AQS data bank.

SOUTHWESTERN ARIZONA

FIGURE C-9
YUMA, ARIZONA SUPERSITE
PM_{10} CONCENTRATION & WIND SPEED CORRELATION



Figs C-9: Yuma Supersite in Yuma, Arizona, located downstream in the southwestern portion of Arizona, saw increased PM10 concentrations in response to higher winds. Air quality data from the EPA's AQS data bank. Wind data from the NCEI's QCLCD system.